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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,693	08/17/2001	Koji Matsuo	KOJIM-417	1573

23599 7590 10/09/2003

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EXAMINER

LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/930,693

Applicant(s)

MATSUO ET AL.

Examiner

Carlos Lopez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 4-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 1-3 on 3/14/03 is acknowledged. The traversal is on the ground(s) that it has not been established that examining all the claims would constitute a serious burden. This is not found persuasive because PTO's holding of a restriction requirement is based on Groups I and II being distinct. Restriction requirement based on a serious burden of examining all the groups has not been held and hence applicant's ground for traversal is moot.

The requirement is still deemed proper and is therefore made FINAL.

This application contains claims 4-6 drawn to an invention nonelected with traverse on 3/14/03. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-9, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yaba et al (US 5,326,729) in view of Ito (JP 04-074728). Yaba discloses feeding silica forming raw material, hydrogen, oxygen and fluorine gas to a reaction zone and flame hydrolyzing the silica forming raw material to form particles of fluorine containing silica which is deposited on a rod or plate (Column 4, lines 47-59).

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The deposited silica forms a porous silica matrix wherein it is heated and vitrified in a fluorine gas atmosphere (Bridging paragraph of Column 5-6). Yaba is silent disclosing that the rod substrate is rotatable. However, Ito discloses a rotatable rod substrate for the deposition of soot (silica) (Machine translation of Ito's Abstract & Fig. 1).

Additionally, Ito teaches that providing a burner at an angle in the range of 0 to 85° (corresponding to an angle of 95 to 180° between the respective center of axis of the burner and matrix as recited in Applicant's claim 1) prevents deterioration of transmission loss of a waveguide (Note machine translation of Ito's Abstract). It is noted that the center axes of the matrix is the y axis as shown in figure 4 that would be the center axis of rotatable rod 21 and that the center axes of the burner is denoted by numeral 26 as shown in figure 4. At the time the invention was made it would have been obvious to one of ordinary skill in the art that Yaba would have a rotatable rod with a burner at angle of 0 to 85° (corresponding to an angle of 95 to 180° between the respective center of axis of the burner and matrix as recited in Applicant's claim 1) in order to prevent deterioration of transmission loss of a waveguide as taught by Ito. Furthermore, in view that the teachings of Yaba and Ito meet the claimed steps of Applicant's claim 1, it would be expected that a resultant silica matrix may have the claimed density and distribution of the silica matrix.

As for claim 3, Yaba teaches in bridging paragraph 5-6, that the quartz glass is heat treated in a hydrogen gas-containing atmosphere.

As for claim 7-9, Yaba in column 4 lines 47-58, discloses using silicon tetrachloride and SiF₄.

As for claim 15, as shown by Ito's figure, the porous silica formed through flame-hydrolysis has a cylindrical form.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yaba et al (US 5,326,729) in view of Ito (JP 04-074728) in of Applicant's Admitted Prior Art (PAT) in page 9 of the instant specification. Ito and Yaba are silent disclosing that the fluorine compound gas-containing atmosphere comprises fluorine compound gas and inert gas such helium or argon. It is noted however, that Yaba's vitrification step, fluorine-containing atmosphere has a fluorine concentration of from 0.01 to 5% by volume (Col. 4, line 68ff). Showing that a carrier gas would expected to be present in order to obtain the disclosed fluorine concentration. As shown by PAT, known vitrification methods and conditions such as vitrifying in an atmosphere having fluorine gas mixed with an inert gas such as argon or helium to provide for a fluorine concentration of greater than 1% can be used for the instant invention. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide for an inert gas such as Helium or Argon as the carrier gas as taught by PAT in order to provide Yaba's vitrification method with a fluorine concentration of 0.01 to 5% by volume. In other terms in order to provide for Yaba's fluorine concentration, an inert gas such as Argon or Helium can be used, as shown by PAT, in order to provide for the desired fluorine concentration.

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yaba et al (US 5,326,729) in view of Ito (JP 04-074728) in of Applicant's Admitted Prior Art (PAT) in page 10 of the instant specification. Ito and Yaba are silent disclosing that

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the hydrogen-containing atmosphere comprises helium or Argon. It is noted however, that Yaba's hydrogen treatment, contains hydrogen in a concentration preferably not less than 30% (Col. 5, line 65ff). Showing that a carrier gas would expected to be present in order to obtain the disclosed hydrogen concentration. As shown by PAT, known hydrogen treatment methods and conditions such as providing hydrogen mixed with an inert gas such as argon or helium to provide for a fluorine concentration of greater than 1% can be used for the instant invention. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide for an inert gas such as Helium or Argon as the carrier gas as taught by PAT in order to provide Yaba's hydrogen treatment with a hydrogen concentration preferably not less than 30% by volume. In other terms in order to provide for Yaba's hydrogen concentration, an inert gas such as Argon or Helium can be used, as shown by PAT, in order to provide for the desired hydrogen concentration.

As for claim 13, while Yaba's prefers using hydrogen in a concentration of not less than 30% by volume, disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments (See MPEP 2123), PAT teaches a hydrogen concentration of 1 to 3 percent.

Response to Arguments

Applicant's arguments filed 7/21/03 have been fully considered but they are not persuasive. In response to applicant's arguments against the references, Yaba and Ito, individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642

F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Yaba fails to disclose the claimed angle range of 90 to 110 degrees. As shown above, Yaba explicitly provides for an angle to be from zero to eighty-five degrees, which would define a complementary angle having a range of 95 to 180 degrees. Thus, Yaba's complimentary angle of 95 to 110 degrees, formed by the burner and silica matrix, reads on the claimed range of 90 to 110 degrees. In regards to applicant's argument that the claimed distribution and density limitations are not disclosed by Yaba, it is noted that said properties as recited in the claim 1, is the result of angle formed by the burner and silica matrix. Hence, in view that the teachings of Yaba and Ito meet the claimed steps of Applicant's claim 1, it would be expected that a resultant silica matrix may have the claimed density and distribution of the silica matrix.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Ito only discloses the production of quartz light waveguide by coating a substrate, typically a metal, with glass soot. Ito fails to disclose an optical fiber. Furthermore, Ito fails to disclose the inventive process for producing a synthetic quartz glass. Particularly, Ito fails to teach or suggest that if the doping rate of fluorine varies with the matrix density, the concentration of fluorine atoms doped is partially graded in a matrix having a density distribution.) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is (703) 605-1174. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (703) 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

QL
10/1/03



PETER CHIN
PRIMARY EXAMINER